

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 **Claim 1 (currently amended):** Work piece coated with
2 a system of film layers comprising at least one film
3 composed of $(Al_yCr_{1-y})X$, where X = N, C, B, CN, BN, CBN, NO,
4 CO, BO, CNO, BNO or CBNO and $0.2 \leq y < 0.7$ $0.66 \leq y \leq 0.695$,
5 with the composition within said $(Al_yCr_{1-y})X$ film being
6 either essentially constant or varying over the thickness
7 of the $(Al_yCr_{1-y})X$ film continually or in steps, said $(Al_yCr_{1-y})X$ film having a cubic crystal structure and said work
8 piece constituting one of the following tools:-
9 specifically a milling tool, [[of]] a hob, (spherical-head)
10 ball nose mill, planar or profiling cutter, a clearing
11 tool, reamer, (indexable tip) insert for turning and
12 milling, a die or an injection mold.

1 **Claim 2 (currently amended):** Work piece coated with
2 a system of film layers comprising at least one film
3 composed of $(Al_yCr_{1-y})X$, where X = N, C, B, CN, BN, CBN, NO,
4 CO, BO, CNO, BNO or CBNO and $0.2 \leq y < 0.7$ $0.66 \leq y \leq 0.695$,
5 with the composition within said $(Al_yCr_{1-y})X$ film being
6 either essentially constant or varying over the thickness
7 of the $(Al_yCr_{1-y})X$ film continually or in steps, said $(Al_yCr_{1-y})X$

8 χ X film having a cubic crystal structure and said work
9 piece constituting a machine component.

1 **Claim 3 (previously presented):** Machine component as
2 in claim 2, wherein said component is a sealing washer, a
3 gear, a piston, a part of a valve drive or a needle for an
4 injection nozzle, or that it is toothed.

1 **Claim 4 (previously presented):** Tool as in claim 1,
2 wherein the tool is a forming tool of an upper die, a
3 bottom swage, a drawing die, an ejector core or a thread
4 former.

1 **Claim 5 (previously presented):** Tool as in claim 1,
2 wherein the tool is an injection-molding tool for producing
3 a molded plastic part or a data storage medium.

1 **Claim 6 (previously presented):** Tool as in claim 1,
2 wherein the tool features a CBN or Cermet base unit or that
3 the tool is a CBN or Cermet (indexable tip) insert.

1 **Claim 7 (canceled)**

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2 **Claim 8 (previously presented):** Work piece as in one
3 of the claims 1-6, wherein a rate of wear of the $(Al_yCr_{1-y})_X$
4 film is less than or equal to $1.5m^3m^{-1}N^{-1}10^{-15}$.

1 **Claim 9 (previously presented):** Work piece as in one
2 of claims 1-6, wherein a Vickers pyramid hardness of the
3 $(Al_yCr_{1-y})_X$ film is 2300 to 3100.

1 **Claim 10 (previously presented):** Work piece as in one
2 of claims 1-6, wherein a layer structure of the $(Al_yCr_{1-y})_X$
3 film is microcrystalline with an average grain size of 20
4 to 120 nm.

1 **Claim 11 (previously presented):** Work piece as in one
2 of claims 1-6, wherein a bonding layer is applied between
3 the work piece and the $(Al_yCr_{1-y})_X$ film.

1 **Claim 12 (previously presented):** Work piece as in
2 claim 11, wherein said bonding layer encompasses at least
3 one of the metals of group IV, V or subgroup VI, or
4 aluminum.

1 **Claim 13 (previously presented):** Work piece as in
2 claim 11, wherein said bonding layer includes at least one
3 nitride, carbide or carbonitride of one or several metals
4 of subgroup IV, V or VI.

1 **Claim 14 (previously presented):** Work piece as in
2 claim 11, wherein at least one $(Al_yCr_{1-y})_X$ film is

3 additionally coated with a slip layer.

1 **Claim 15 (currently amended):** Work piece as in claim
2 14, wherein said slip layer encompasses a carbide of at
3 least one metal with dispersed carbon, MeC/C wherein Me is
4 selected from among group IVb, Vb and VIb metals and
5 silicon, a diamond-like carbon layer, a Si- or metallic
6 diamond-like carbon layer, a MoS_x, a WS_x or a
7 titanium-containing MoS_x or MoW_x layer.

1 **Claim 16 (withdrawn):** PVD process for depositing at
2 least one (Al_yCr_{1-y})X film on a work piece, where X = N, C,
3 B, CN, BN, CBN, NO, CO, BO, CNO, BNO, CBNO and ~~0.2 < y < 0.7~~
4 0.66 ≤ y ≤ 0.695, comprising the steps of installing at
5 least one work piece in a vacuum coating system with at
6 least one Al_zCr_{1-z} target, where ~~0.25 ≤ z < 0.75~~, operating
7 said system at a pressure of 0.5 to 8 Pa with the addition
8 of a nitrogen-, carbon- boron- or oxygen-containing
9 reactive gas and applying on the work piece of a substrate
10 voltage of between -3 and -150V, as an arc or sputtering
11 source, wherein the constituent composition within the said
12 at least one (Al_yCr_{1-y})X film is either essentially constant
13 or varies either continuously or in steps over the
14 thickness of the film, said at least one (Al_yCr_{1-y})X film
15 having a cubic crystal structure, and said work piece being
16 selected from among the work pieces recited in either of

17 claims 1 or 2.

1 **Claim 17 (withdrawn):** PVD process as in claim 16,
2 wherein X = N and the reactive gas is nitrogen or oxygen.

1 **Claim 18 (withdrawn):** PVD process as in claim 16 or
2 17, wherein the substrate voltage is pulsed.

1 **Claim 19 (withdrawn):** PVD process as in claim 16 or
2 17, wherein the $\text{Al}_z\text{Cr}_{1-z}$ target is a powder-metallurgically
3 produced target.

1 **Claim 20 (withdrawn):** PVD process as in claim 19,
2 wherein the target is produced by cold-pressing starting
3 material in powder form with repeated subsequent reshaping,
4 at temperatures under 660°C, densification by fluxing and
5 cold fusion, and transformation into its final state with
6 a theoretical density at about 96 to 100%.

1 **Claim 21 (withdrawn):** Process comprising the steps of
2 machining a material with a tool recited in claim 1,
3 wherein said machining using said tool is performed without
4 the addition of lubricants or cooling agents for machining
5 a material, wherein the process involves the use of a tool
6 per claim 1.

1 **Claim 22 (canceled)**

1 **Claim 23 (withdrawn):** Process as in claim 21-~~or~~-22,
2 wherein the tool is a hard-metal or HSS hob (cutter) and
3 the cutting speed is 60 to 450 m/min.

1 **Claim 24 (withdrawn):** Process as in claim 21-~~or~~-22,
2 wherein the tool is an end-milling, (spherical-head)
3 ball-nose-mill or a roughing cutter.